

## Abstract of the Disclosure

A substrate having a chemically modified surface comprises a base layer having a coating positioned thereon. The coating includes a chemically crosslinked material comprising elements selected from the group consisting of (1) M, O, C, H, and N; wherein M is a metal selected from the group consisting of silicon, titanium, tantalum, germanium, boron, zirconium, aluminum, hafnium and yttrium, (2) M, O, H, and N wherein M is defined above, (3) C, (4) O, C, H, and N, and (5) M or C and one of O, H, or N, wherein the chemically crosslinked material is terminated with at least one electrophilic or nucleophilic functional group.

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